

Water Environment Federation: Responding to National and Global Sustainable Infrastructure Challenges

Mohamed F. Dahab, Ph.D., P.E., BCEE
Past-President (2006-2007),
Water Environment Federation



Presentation Outline

- Water Environment Federation
 - Vision and Mission
 - Publications and Programs
 - Conferences
 - Challenges to the National/Global Water Environment
 - Water Infrastructure Sustainability
 - Contaminants of Emerging Concern
 - Global Climate Change
 - Workforce Demographics
 - Water Security Issues
 - Concluding Remarks
-

Water Environment Federation

The Water Environment Federation (WEF): Founded in 1928 as a not-for-profit technical and educational organization with members from varied disciplines within the water quality fields.

The WEF network includes about 35,000 water quality professionals from 76 member associations in 30 countries. On the web:
<http://www.wef.org/>

Water Environment Federation: Vision and Mission

Vision:

- WEF will be *recognized as a leader dedicated to the preservation and enhancement of the global water environment.*

Water Environment Federation: Vision and Mission

Mission:

- Promote scientifically sound environmental practices and regulation.
- Educate members, the public and policy makers.
- Promote public health by preserving and enhancing the global water environment.
- Develop and promote practices and policies for efficient and environmentally protective water quality and wastewater management services.
- Deliver high quality products and services to members and stakeholders.
- Promote and advance the water quality profession.

WEF Members are Diverse

- Municipal utilities
- Private sector/consulting engineers
- Other: industry, academics, students, state and federal government employees
- Members in over 30 countries

WEF Technical Publications

- Magazines and Journals
 - Water Environment and Technology
 - *Water Environment Research*
 - *Water Practice* (on-line)
 - World Water
- Technical Bulletins and Newsletters
 - Water Environment Laboratory Solutions
 - Biosolids Technical Bulletin
 - Industrial Wastewater Technical Bulletin
 - Watershed & Wet Weather Technical Bulletin
 - Utility Executive
 - Water Environment Regulation Watch

WEF Technical Publications

☐ Manuals of Practice

- Biological Nutrient Removal
- Operation in Wastewater Treatment Plants
- Clarifier Design
- Upgrading & Retrofitting Water & Wastewater Treatment Plants
- Financing & Charges for Wastewater Systems

☐ Operations Manuals

- Operation of Municipal Wastewater Treatment Plants

☐ Standard Methods

☐ Other

- Membrane Systems for Wastewater Treatment
- Trenchless Technology Pipeline and Utility Design, Construction, and Renewal
- Water-Quality Trading: A Guide for the Wastewater Community
- Etc..

WEFTEC

WEFTEC: The Leading Water Quality Event in the World

- ❑ San Diego, CA, (19,929 attendees)
- ❑ More than 1000 companies covering more than 265,000 sq. ft. actual exhibit space
- ❑ Technical Program:
 - 100 Technical Sessions;
 - 30 Pre-conference Workshops;
 - 500 Podium Presentations,
 - 100+ Posters,
 - Facility Tours, etc..



WEF Specialty Conferences

- Specialty Conferences include
 - Disinfection: Current Practice and Future Trends
 - Utility Management, in collaboration with AWWA
 - Nutrient Removal
 - Residuals and Biosolids Management
 - Collection Systems
 - Water Reuse Symposium (with AWWA & WRA)
 - Membrane Technology
 - Sustainability
 - Total Maximum Daily Load (TMDL)

WEF Public Education and Outreach

- Public Education Program include:
 - Water is Life...Infrastructure Makes It Happen
 - World Water Monitoring Day
 - Stockholm Junior Water Prize
 - Educational Materials for Public and Educators
 - Fact sheets
 - School Curricula

WEF Policy Focus

Communications Tools:

- Consensus Policy and Position Statements
- Legislative and Regulatory Advocacy
- Government Affairs Program
- National Clean Water Policy Forum
- Working with Member Associations to address national and international issues.

Challenges to the Global Water Environment

- **Water Infrastructure sustainability**
- **Contaminants of Emerging Concern**
- **Global Climate Change**
- **Workforce Demographics**
- **Water Security Issues**



Water Infrastructure sustainability

❑ Infrastructure sustainability Issues:

- Deteriorating infrastructure
- Insufficient infrastructure facilities
- Lack of sustainable renewal, replacement, and maintenance programs
- Absence of sustainability educational programs



Realities of Water Infrastructure Systems

- ❑ Water Infrastructure sustainability is a global problem:
 - For example, the U.S. EPA estimates that the US will need \$450 billion over the next 20 years
 - Similar issues in developed and developing countries
 - Biggest Challenge: in 2007 there are:
 - ❑ 1 billion people with no access to safe water supply
 - ❑ 2.5 billion people with no access to reasonable sanitation



Sustainable Infrastructure Systems

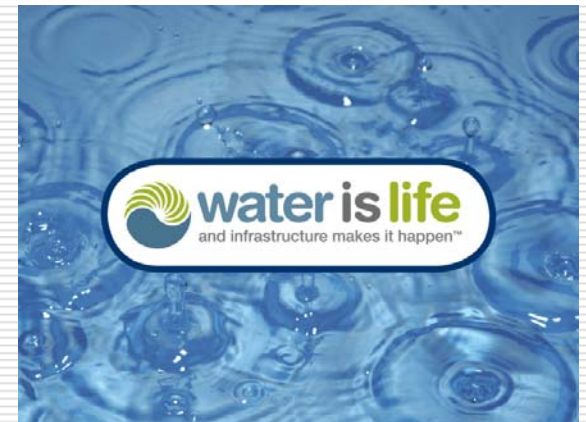
- WEF Position - a three-pronged approach to solve the infrastructure challenge:
 1. Effective water systems management and funding to ensure long-term sustainability of collection, treatment and distribution systems;
 2. Significant and continuing investment commitment; and
 3. Public and business support to insure that water systems continue to effectively serve their communities. – Full Cost Recovery

Sustainable Infrastructure Systems

- WEF activities related to infrastructure sustainability:
 - Water is Life and Infrastructure Makes it Happen – a public education program aimed at elected officials and the general public.
 - Sustainability 2008: “Green Practices for the Water Environment” – a national conference to be held in June 2008 Maryland.
 - National Leadership Summits for a Sustainable America -- A series of four national summits to define America’s infrastructure agenda.
 - National Clean Water Policy Forum.
 - Water Infrastructure Network (WIN)

Water is Life and Infrastructure Makes it Happen

- An Education program...
 - Designed to inform and motivate the general public, ratepayers, and elected officials to invest in water and wastewater infrastructure.
- Provides Free Tools:
 - Fact sheets
 - FAQs
 - Talking Points
 - Sample letters
 - PSAs
 - PowerPoint Presentations



Water is Life and Infrastructure Makes it Happen

■ Materials for Purchase

- Brochure
- Bookmarks
- Buttons
- Media Folders
- Pens
- Media Folder

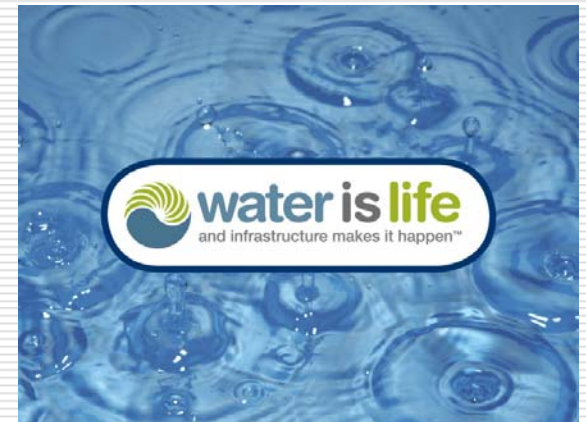
Contains 12 page brochure and full color illustration of “The Infrastructure Beneath Your Feet”



Water is Life and Infrastructure Makes it Happen

Program Basics

- Developed specifically for use by water and wastewater service providers
- Packaged for use by utilities of all sizes with public education departments of varying levels of sophistication
- “Pick and choose” approach



Water is Life and Infrastructure Makes it Happen

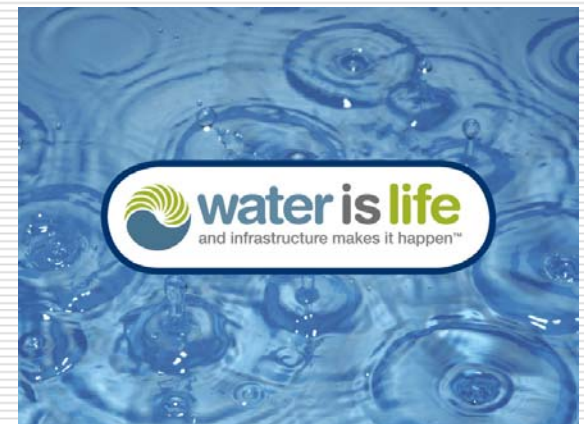
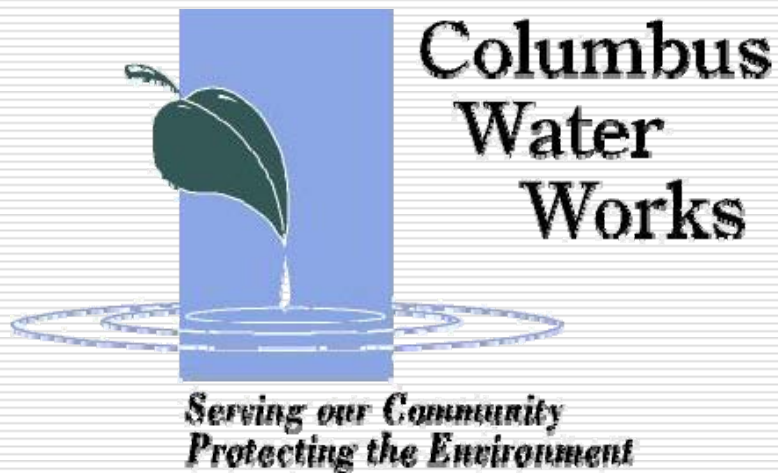
Collaborative approach:

- National Advisory Committee of water professionals provides input
- WEF members hold focus groups to test messaging
- Pilot utilities and WEF Member Associations participate in a year long trial period



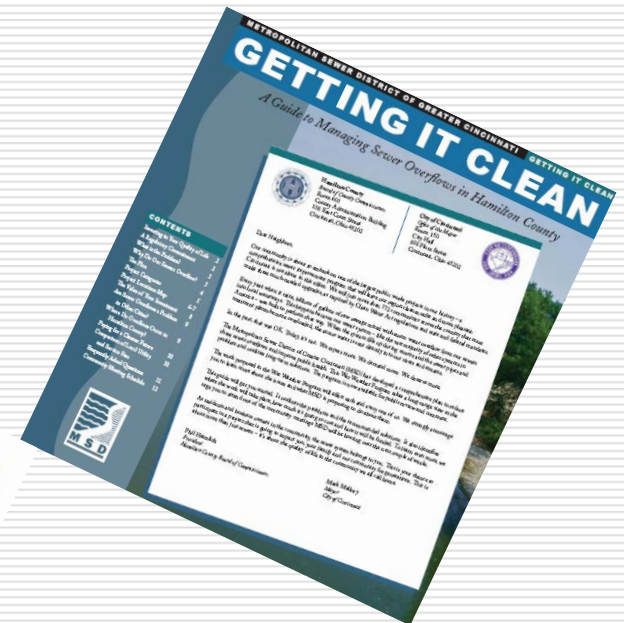
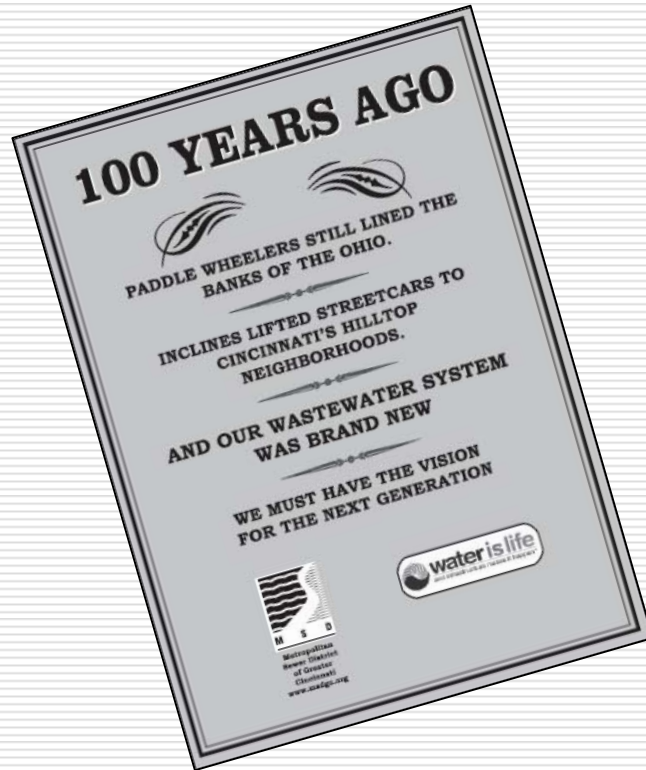
Water is Life and Infrastructure Makes it Happen

Program Pilots: Columbus (GA)



Water is Life and Infrastructure Makes it Happen

Program Pilots: Cincinnati (OH)



Water is Life and Infrastructure Makes it Happen

Program Pilots: San Francisco (CA)



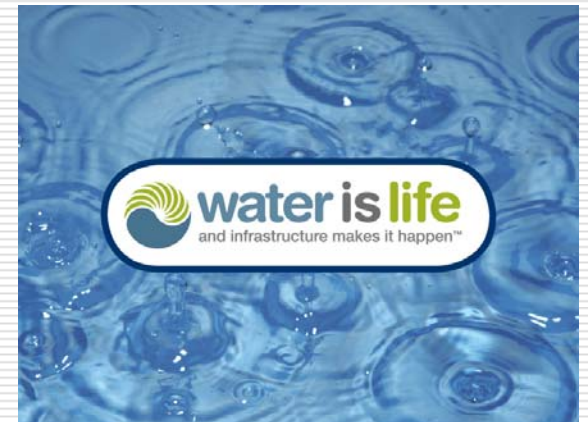
“The city under The City needs to be fixed”



Water is Life and Infrastructure Makes it Happen

Program Information:

www.WaterIsLife.net



Sustainability 2008

National Conference: Sustainability 2008: "Green Practices for the Water Environment"

- June 22-25, 2008 at Gaylord National on the Potomac, National Harbor, Maryland

Conference Aims: (the three main goals of sustainability: economic, environmental, and social performance):

- Green infrastructure and stormwater
- Watershed approaches to water management
- Green practices for energy conservation and climate change adaptation

WEF Community of Practice on Sustainability

- **Concept of Community of Practice –**
 - Intended to bridge the varied interests of the members of WEF's many committees.
 - Inaugural meeting held at WEFTEC '07 in San Diego.
- **Sustainability CoP is intended to:**
 - Foster sustainable practices in many of WEF technical and educational practices.
 - sustainable utilities;
 - sustainable watershed approaches;
 - industrial / corporate approaches;
 - green infrastructure and stormwater; and
 - energy conservation and climate change.

Sustainability: Other WEF Initiatives

- ❑ **Continuous focus: WEFTEC '07 Program included**
 - ❑ A new focus area: "Sustainability and Energy Efficiency"
 - ❑ WEFTEC Workshop on sustainability
 - ❑ Ten technical sessions featuring over fifty papers.
- ❑ **National Leadership Summits for a Sustainable America --** A series of four national summits to define America's infrastructure agenda.
- ❑ **National Clean Water Policy Forum.**
- ❑ **Water Infrastructure Network (WIN)**
 - A broad-based coalition dedicated to preserving and protecting the health, environmental and economic gains provided by America's drinking water and wastewater infrastructure.

Water Environment Federation: Responding to National and Global Sustainable Infrastructure Challenges

Thank You for Listening

Mohamed F. Dahab, Ph.D., P.E., BCEE
Past-President, Water Environment Federation

